

DEPARTMENT OF HEALTH

Informational Briefing on U.S. Navy's Fuel Tanks at Red Hill

September 3, 2014

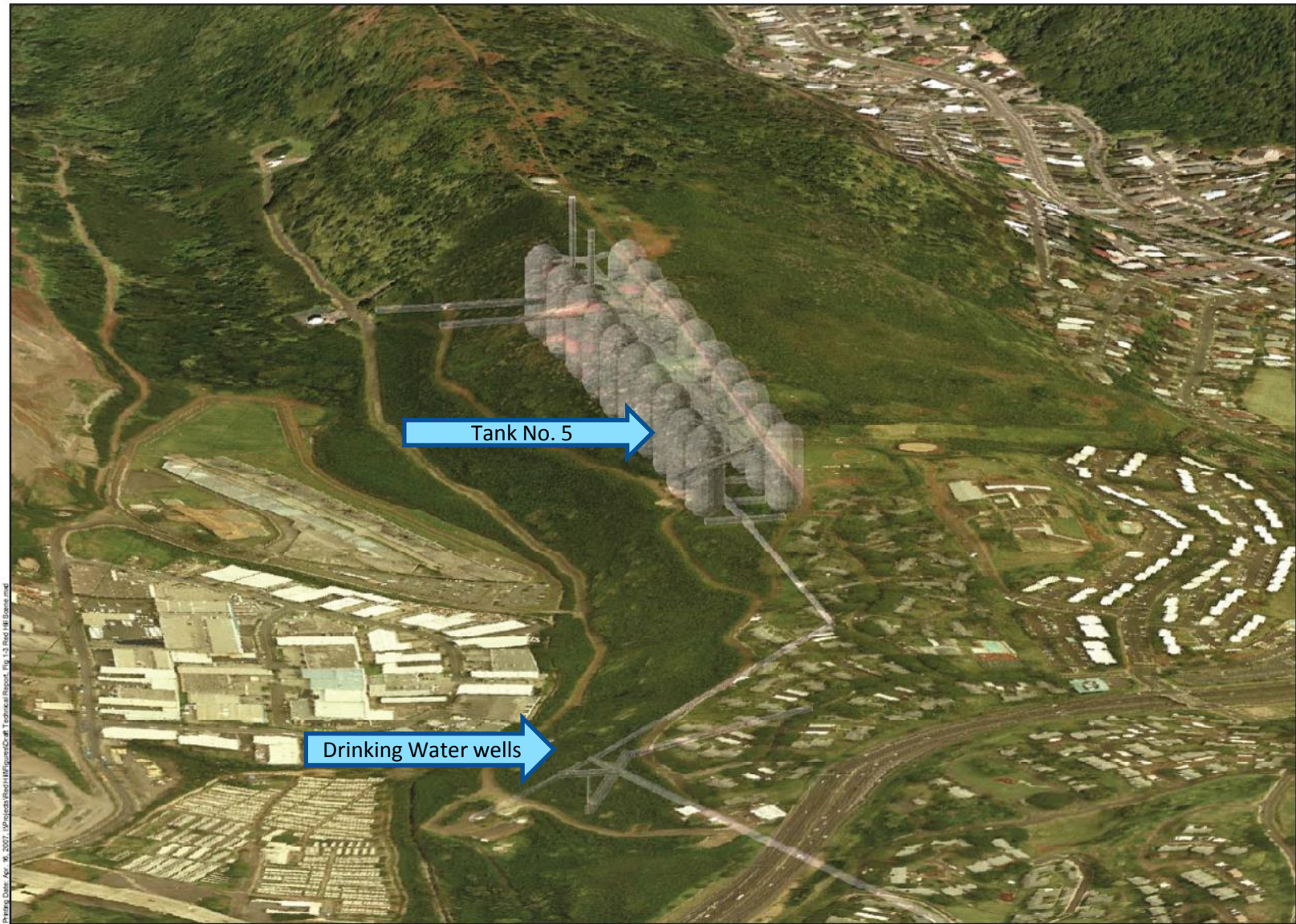


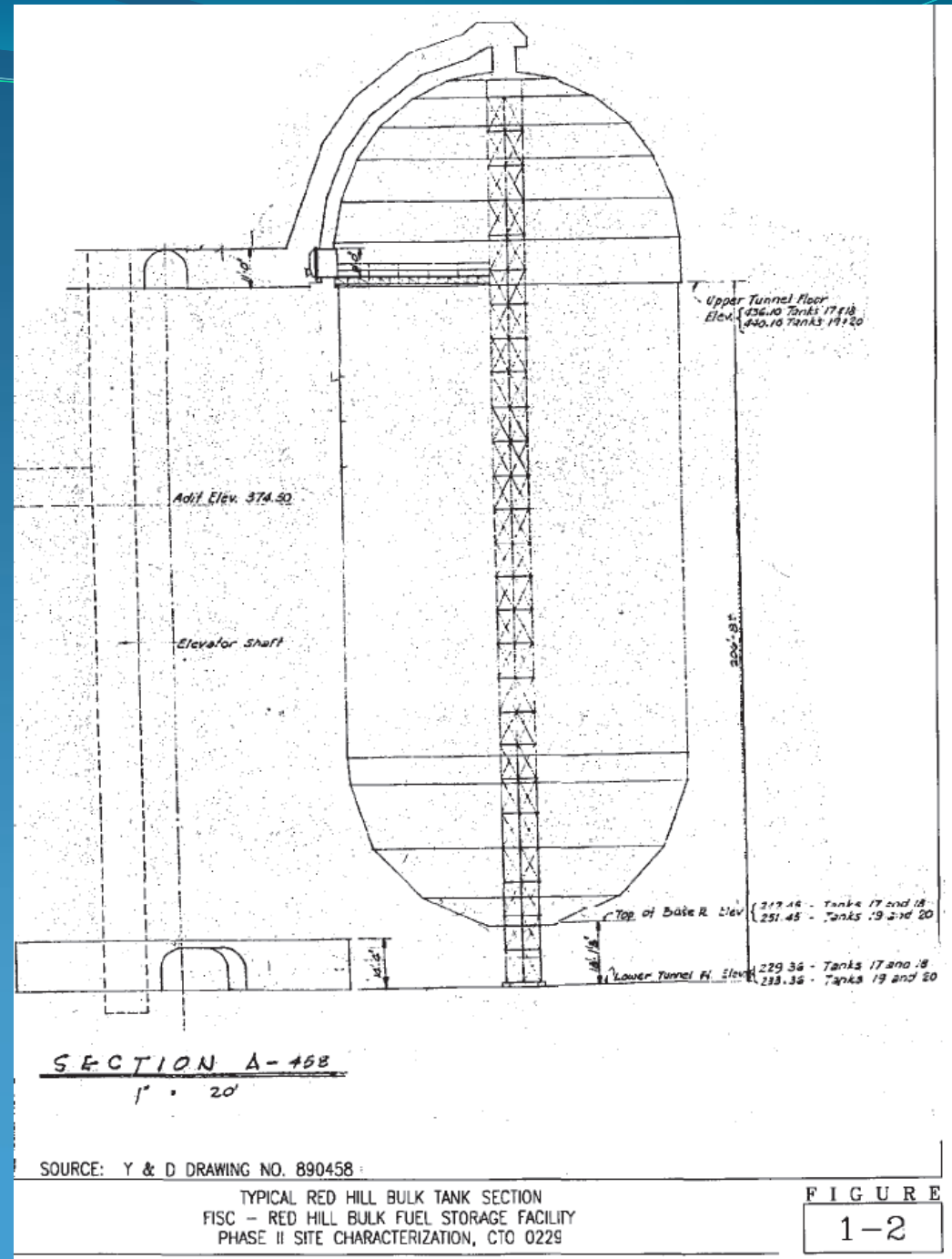
Figure 1-3
Red Hill Tanks and Surrounding Infrastructure
Red Hill Fuel Storage Facility
Oahu, Hawaii



1 inch = ~ 300 feet

Cross Section Red Hill UST

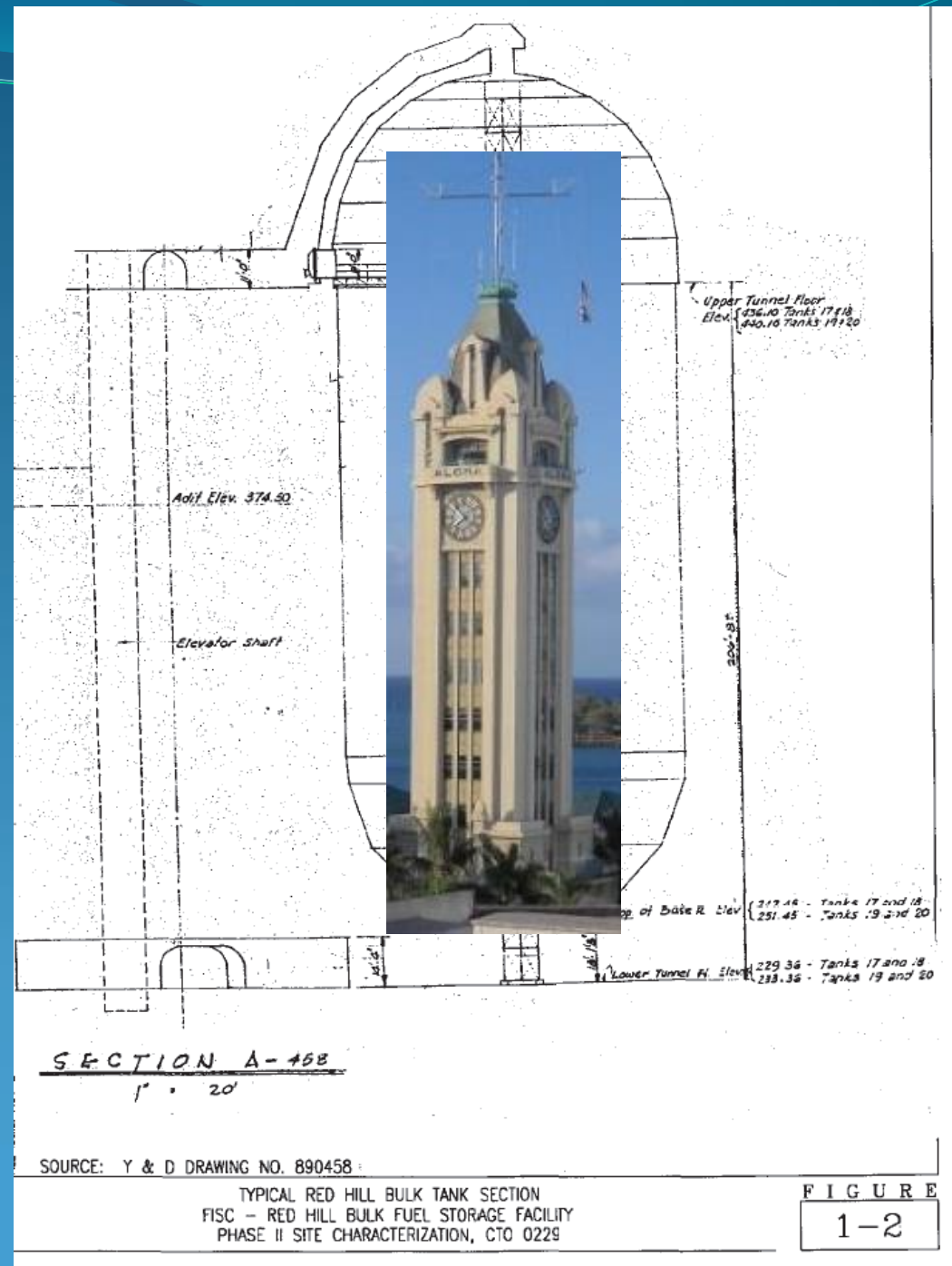
Height: 250 Feet
Diameter: 100 Feet
Capacity: 12.6 Million
Gallons



Aloha Tower will fit into
each of the 20 Red Hill
Storage Tank

Each tank can hold 12.6
Million Gallons of fuel

The Tanks were
constructed inside of Red
Hill from 1940 to 1943



UST/LUST Program Status In Hawai'i

Cooperative Agreement with EPA since 1986

HAR 11-281 UST Rules amended on August 9, 2013.

Number of active USTs

1,233 at gas stations

320 for emergency generators

46 field constructed tanks

Number of confirmed releases

2,053 (national total: 514,123)

Number of cleanups completed

1,907 (national total: 436,406)



UST Typical Owner & Operator Requirements

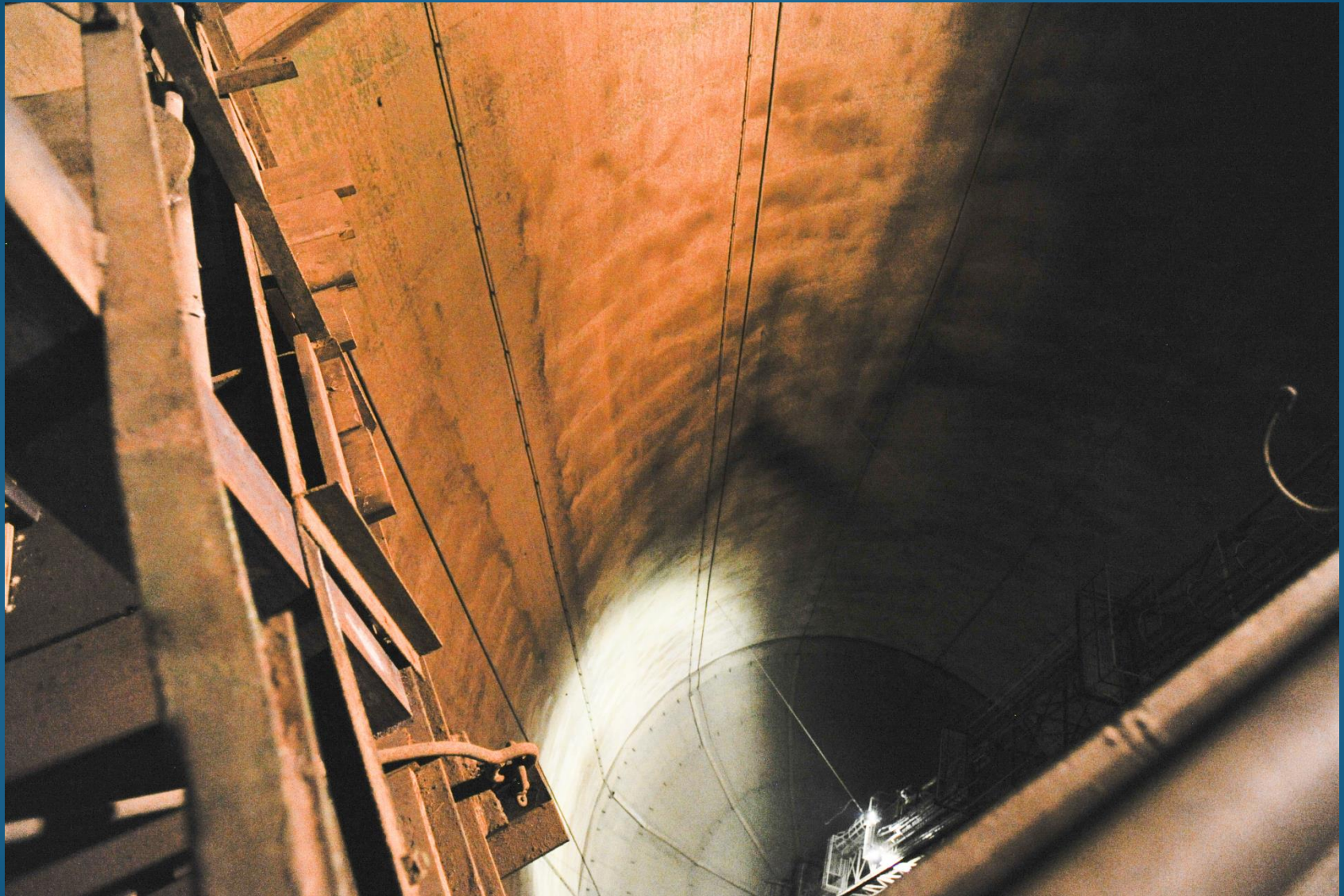
1. Design, construction, and installation
2. Notification, permits, and variances
3. General operating requirements (i.e. spill & overfill protection, repairs, recordkeeping)
4. Release detection
6. **Release reporting, investigation, & confirmation***
7. **Release Response Action***
8. **Closure***
9. Financial Responsibility
10. **Enforcement***

***Federal Statutory Exemption require Field Constructed USTS to comply with only 6, 7, 8 & 10.**

Upper Tunnel Access to Tank No. 19



View of Tank Bottom



UST Regulatory Oversight

US Navy Red Hill Complex

Registration of all USTs to DOH by May 8, 1986

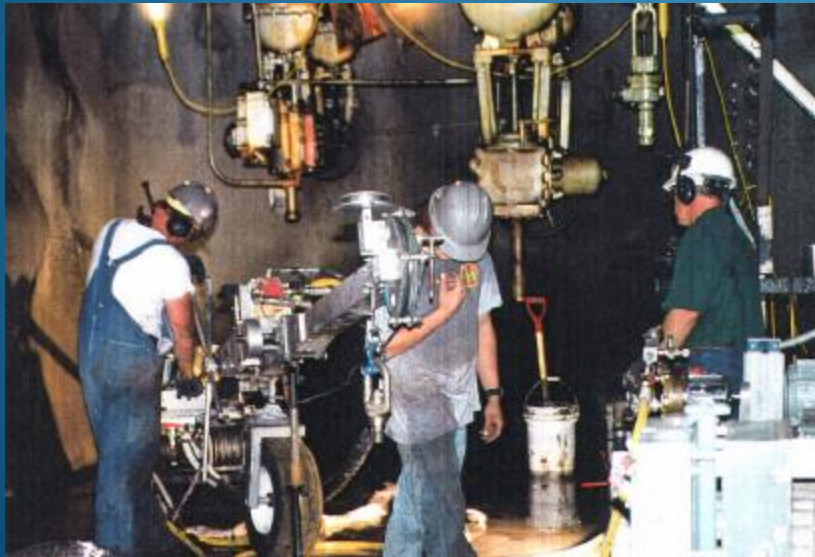
Navy Region Hawaii is the owner of the Red Hill Tank complex and Naval Fuel Supply is the operator

Information about these tanks were classified until 1995

UST Regulatory Oversight US Navy Red Hill Complex

Release Investigations 1998 – 2002

Basalt Cores taken from under each tank



UST Regulatory Oversight US Navy Red Hill Complex

Confirm Release Notifications (CRN)

1998 – Tank No.16

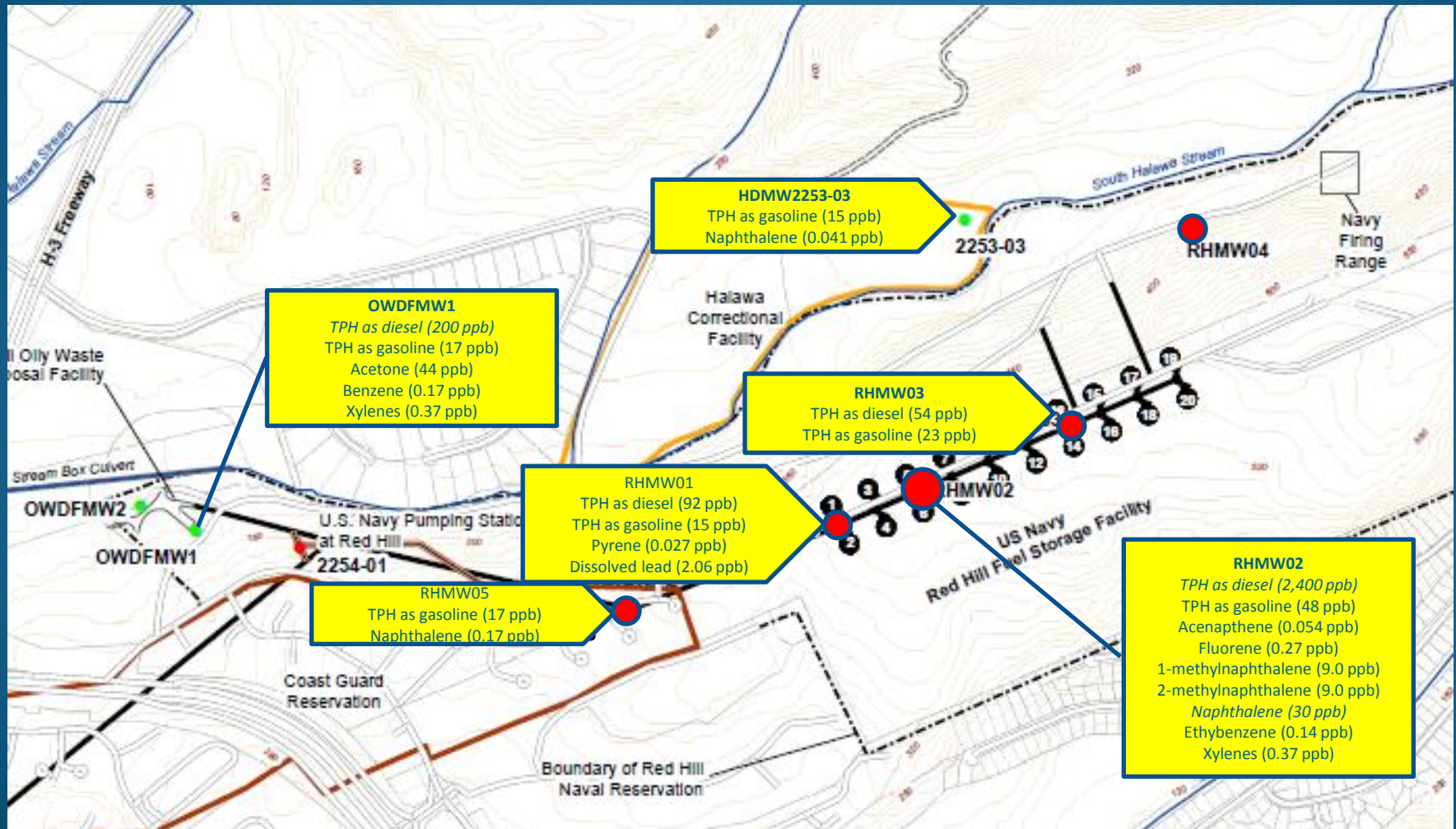
2002 – Revised CRN for the entire Red Hill Complex
(19 of 20 tanks)

Drinking Water Wells Near Red Hill



UST Regulatory Oversight US Navy Red Hill Complex

Construction of 5 Groundwater Monitoring Wells 2005 – 2009
(Sampling results from October 22-23, 2013)



Lower Access Tunnel at Tank No. 5



Fuel Stain at Tank No. 5



Oversight by DOH Programs

- Hazard Evaluation and Emergency Response Office (HEER)
 - Primary State Representative for soil and chemical releases
 - Incorporates Incident Command System (ICS) for emergencies
 - Ensure health and safety of public and response personnel
- Solid and Hazardous Waste Branch (SHWB)
 - Regulates Underground Storage Tanks (UST)
 - Directs remediation of Leaking USTs (LUST)
- Safe Drinking Water Branch (SDWB)
 - Regulates Public Water Systems
 - Ensures that water is safe to drink

Emergency Response Phase

January 13, 2014

- Suspected Release @ Red Hill Storage Tank No. 5
- Facility (est 12,000 gallons) reported to DOH
- Unified Command is activated by DOH & Navy on 1/14
- DOH notifies Honolulu Board of Water Supply
- Navy removes fuel from Tank No. 5 (three days)

Tank No. 5 was out of service for 4 years. Returned to service in December 2013.

Remediation Phase

- January 31, 2014 Unified Command Finalizes Transition Plan
- DOH HEER transfers oversight to SDWB and SHWB (UST)

Safe Drinking Water Branch

Follow-up Actions

Coordinating the increased monitoring of drinking water sources in the area by:

- U.S. Navy (Red Hill Shaft)
- BWS (Halawa Shaft, Moanalua Wells, Aiea Wells, Aiea Gulch Well, & Halawa Well)
- DOH (Red Hill Shaft, Halawa Shaft, & Moanalua Well)

Water Continues to be Safe to Drink

2014 Release Red Hill Tank No. 5

- January 13, 2014 suspected release
(from 12,000 to 20,000 gallons of Jet Fuel unaccounted)
- Increased petroleum vapor levels below tank No. 5
- January 24, 2014 Confirmed Release Notification (CRN)
(Navy confirms release of up to 27,000 gallons of Jet Fuel)

DOH UST Response

2/3/14 - Navy Initial Release Response report due within 90 days of notification of Confirmed UST Release (April 24, 2014).

2/12/14 - Approved increased monitoring for groundwater, soil vapor, and oil/water.

- Request Preliminary Work Plan (due March 14, 2014) to address
 - movement of free product
 - scanning of basalt to determine area of contamination
 - characterize the extent of contamination

DOH UST Response (cont.)

2/26/14 – DOH requested additional tasks:

- Schedule for the ventilation of Tank 5 and investigation of the tank interior.
- Address the potential impact of any future releases at the Tank Complex.
- Reserve and increase funding as needed for all phases of the release
- Evaluate the installation of deep monitoring wells to the Northwest and South to serve as sentinel wells for the Board of Water Supply's drinking water pump stations.
- Weekly progress reports by Navy Region Hawaii and NAVSUP FLCPH to DOH UST .

Red Hill UST Updates

2/25 to 4/7/2014 - Tank No. 5 Vented

4/24/2014 - Navy begins visual inspection inside Tank No. 5

5/13/2014 - Inspection of tank floor and lower dome completed

5/27/2014 - Begin inspection of tank walls

6/13/2014 - Navy confirms three holes at the 90-foot elevation

6/20/2014 - Navy confirms a total of fifteen holes

6/27/2014 - Navy update confirms a total of seventeen holes

DOH is Working with the Navy

- To determine the location and full extent of contamination caused by the recent jet fuel release and any prior spills.
- To Evaluate, develop and implement remediation or other corrective measures to recover jet fuel and reduce migration of contamination.

DOH is Working with the Navy

- To develop additional monitoring wells and/or other measures to track the movement of petroleum releases, especially towards other drinking water sources.
- To prevent the direct contamination of the drinking water aquifer through the lower access tunnel or other pathways.

Red Hill Underground Storage Tanks

80 to 100 Feet above Groundwater

1500 Feet Up Gradient of Infiltration

Gallery (Navy Drinking Water Supply)

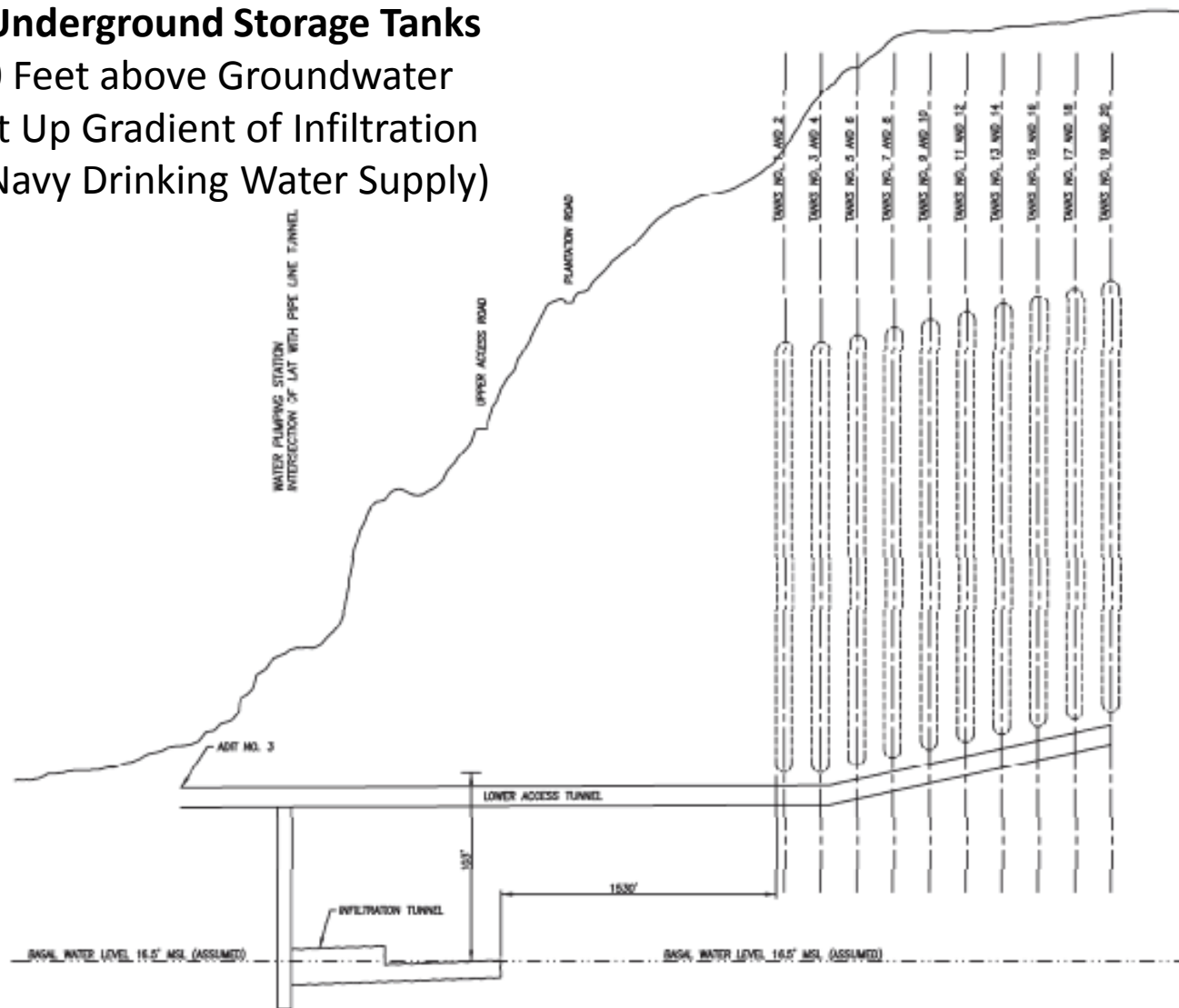


Figure 1-4
Fuel Storage Tanks and Water Tunnel Cross Section
Red Hill Fuel Storage Facility
Oahu, Hawaii

SCALE: HORIZ. 1" = 500'
VERT. 1" = 60'

Thank You
Questions

	DOH REQUIRED Release Response Actions	COMPLETION DATE		
11-281-78.1	Submits Confirmed Release Notification to DOH within 7 days	1/24/14		
11-281-74(1)	Remove fuel from UST	2/25-4/7/14	Tank 5 emptied and vented	
11-281-75	Site Characterization	TBD	Work plan submitted	
11-281-76	Free Product Removal	TBD		
11-281-77	Investigation of soil and groundwater contamination (Delineate Extent of Release)	TBD	Confirmation to install 2 additional monitoring wells.	11-281-77
11-281-78	Site Cleanup (i.e. Soil, Water & Vapor Removal etc.)	TBD		



Lower Access Tunnel at Tank No. 5

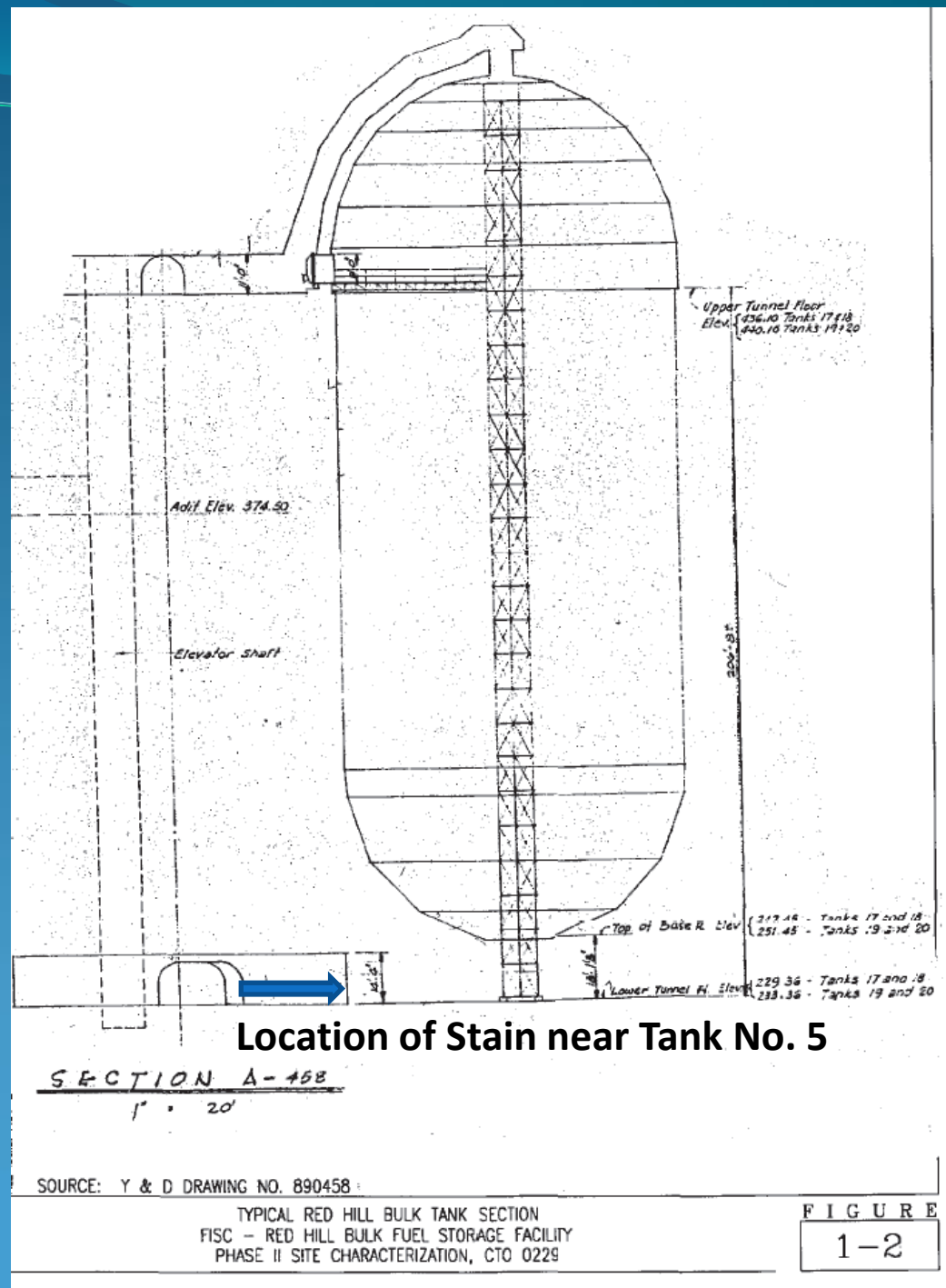


Fuel Stain at Tank No. 5



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